

CLAIMS

1. A radio frequency identification (RFID) sensor system having one or more spatially-distributed RFID sensing transceivers, the system comprising:
first and second conductive paths, for receiving sensing signals from the one or more RFID sensing transceivers; and
a controller for providing a carrier signal on the first and second conductive paths, and for receiving the signals from the first and second conductive paths.
2. The system in accordance with claim 1, wherein the first and second conductive paths are substantially parallel to each other.
3. The system in accordance with claim 1, wherein the controller includes an oscillator for providing an AC signal for the carrier signal.
4. The system in accordance with claim 1, further comprising a reader, in communication with the controller, and having logic for resolving an output based on the sensing signals received from the RFID sensing transceivers.
5. The system in accordance with claim 1, wherein the sensing signals are capacitively-coupled from the RFID sensing transceivers to the first and second conductive paths.
6. The system in accordance with claim 1, wherein the RFID sensing transceivers generate the sensing signals based on a stimulus perceivable by the RFID sensing transceivers.
7. The system in accordance with claim 6, wherein the stimulus is selected from the group consisting of: pressure, light, temperature, touch, chemical composition, or biological composition.

8. A radio frequency identification (RFID) sensor system, comprising:
a conducting path having first and second conductors; and
one or more RFID sensing transceivers spatially-distributed along the
conducting path and capacitively-coupled to the first and second conductors; and
a controller coupled to the conducting path.

9. The system in accordance with claim 8, wherein the controller
includes an oscillator.

10. The system in accordance with claim 9, wherein the oscillator is
configured to provide a carrier signal on the conducting path.

11. The system in accordance with claim 8, wherein the one or more RFID
sensing transceivers are each configured to perceive a stimulus, and provide a sensing signal
to the conductive path via the capacitive coupling based on the stimulus perceived by the
RFID sensing transceiver.

12. The system in accordance with claim 11, wherein the controller is
configured to receive the sensing signal from an RFID sensing transceiver via the first and
second conductive paths.

13. The system in accordance with claim 11, wherein the stimulus is one
from the group consisting of: pressure, light, temperature, touch, chemical composition, or
biological composition.

14. The system in accordance with claim 8, wherein the first and second
conductors are substantially parallel to each other.

15. A method for radio frequency identification of a stimulus, comprising:
perceiving the stimulus with at least one RFID sensing transceiver;
generating a sensing signal based on the stimulus;

capacitively coupling the sensing signal to a conductor; and
transmitting the sensing signal on the conductor to a signal reader.

16. The method in accordance with claim 15, wherein the conductor includes a first conductive path and a second conductive path capacitively coupled to the at least one RFID sensing transceiver.

17. The method in accordance with claim 15, further comprising resolving an output with the signal reader.

18. The method in accordance with claim 16, further comprising:
providing a carrier signal to the conductor; and
transmitting the sensing signal on the carrier signal.

19. The method in accordance with claim 18, wherein the carrier signal includes a frequency between 50 and 100 MHz.

20. A system comprising:
multiple passive radio frequency identification (RFID) transceivers, each comprising a sensor;
conductors located in proximity to the passive RFID transceivers and allowing capacitance coupling between the conductors and the passive RFID transceivers; and
a controller coupled with the conductors to effect the capacitance coupling, power the passive RFID transceivers, and receive obtained sensor data from the passive RFID transceivers.

21. The system of claim 20, wherein each of the passive RFID transceivers comprises an RFID chip-attachment module and an integrated circuit (IC) chip comprising the sensor, and the conductors are located in proximity to the RFID chip-attachment modules.

22. The system of claim 21, wherein the conductors comprise first and second conductive leads.

23. The system of claim 22, further comprising at least one antenna coupled with at least one of the first and second conductive leads to allow RF transmissions with at least one external reader.

24. The system of claim 22, further comprising a printed circuit board including nodes monitored by the sensors.